

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for BENZALDEHYDE

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Camellia sinensis</i>	Shoot	2100.0	2300.0	5.505869120167252	--
<i>Cistus ladaniferus</i>	Leaf	28.0	1960.0	2.573819767375808	--
<i>Psidium guajava</i>	Fruit		1000.0	1.6531405018822756	--
<i>Umbellularia californica</i>	Plant	70.0	280.0	1.5029713053954576	--
<i>Juglans nigra</i>	Essential Oil		28000.0	1.4141013736565446	--
<i>Trifolium pratense</i>	Flower		12.0	1.0000000000000004	Buchnauer,G.,Jirovetz,L.,Nikiforov, A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection, Gas Chromatography-Mass Spectrometry, and Gas Chrom.-Olfactometry. J.Agric.Food Chem.44:1827-8
<i>Perilla frutescens</i>	Leaf Essent. Oil		16000.0	0.718924077170524	Kang, R., Helms, R., Stout, M.J., Jaber, H., Chen, Z., and Nakatsu, T. 1992. Antimicrobial Activity of the Volatile Constituents of <i>Perilla frutescens</i> and Its Synergistic Effects with <i>Polygonum</i> . J. Agric. Food Chem., 40: 2328-2330.
<i>Aspalathus linearis</i>	Leaf Essent. Oil		15900.0	0.6952232834176496	--
<i>Eucalyptus saligna</i>	Shoot		280.0	0.472629315676062	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven <i>Eucalyptus</i> Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Acinos suaveolens</i>	Shoot		200.0	0.2732930857952227	Jim Duke's personal files.
<i>Prunus laurocerasus</i>	Leaf	413.0	456.0	0.23876656464824977	--
<i>Agastache foeniculum</i>	Plant	1.0	135.0	0.05009904351318192	Mazza, G. and Kiehn, F.A. 1992. Essential Oil of <i>Agastache foeniculum</i> , A Potential Source of Methyl Chavicol. J. Ess. Oil Res., 4: 295-299.
<i>Eucalyptus punctata</i>	Shoot		80.0	-0.02571125902603615	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven <i>Eucalyptus</i> Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Carica papaya</i>	Fruit		300.0	-0.06377099858893052	--
<i>Ephedra sinica</i>	Shoot		15.0	-0.18767194580421803	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Elsholtzia blanda	Shoot		13.0	-0.192655351551239	Bestman, H.J., Rauscher, J., Vostrowsky O., Pant, A.K., Dev. V., Perihar, R. and Mathela, C.S. 1992. Constituents of the Essential Oil of Elsholtsia blanda Benth. (Labiatae). J. Ess. Oils Res. 4: 121-124
Eucalyptus maculata	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus albens	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus camaldulensis	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus maidenii	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Ocimum gratissimum	Shoot		0.1	-0.2247983186195243	Vostrowsky, O., Garbe, W., Bestmann, H.J. and Maia, J.G.S. 1990. Essential Oil of Alfavaca, Ocimum gratissimum, from Brazilian Amazon. Zeitschr. Naturforschung 45(C): 1073-6.
Eucalyptus siderophloia	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus melliodora	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus sideroxylon	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus moluccana	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus citriodora	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus occidentalis	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus astringens	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus cladocalyx	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus botryoides	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus oviformis	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Eucalyptus blakelyi</i>	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Eucalyptus dealbata</i>	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Eucalyptus tereticornis</i>	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Eucalyptus bosistoana</i>	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Eucalyptus diversicolor</i>	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Eucalyptus polyanthemos</i>	Shoot		0.1	-0.2247983186195243	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Micromeria fruticosa</i>	Shoot		0.0	-0.2250474889068754	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479.
<i>Micromeria fruticosa</i>	Shoot		0.0	-0.2250474889068754	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum onites	Shoot		0.0	-0.2250474889068754	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. <i>Flav. & Frag. J.</i> 8: 331-7.
Thymus capitatus	Shoot		0.0	-0.2250474889068754	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. <i>Flav. & Frag. J.</i> 8: 331-7.
Cinnamomum verum	Plant	26.0	104.0	-0.260515026268546	--
Peumus boldus	Leaf		1.0	-0.46764913165563243	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Callicarpa americana	Leaf		0.55	-0.4683477845420869	--
Murraya koenigii	Leaf		0.1	-0.4690464374285412	--
Carthamus tinctorius	Leaf		0.04	-0.4691395911467352	--
Elsholtzia polystachya	Leaf		0.0	-0.4692016936255311	Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.
Elsholtzia polystachya	Leaf		0.0	-0.4692016936255311	Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.
Ocimum basilicum	Essential Oil		700.0	-0.6916241263883828	--
Aniba rosaeodora	Essential Oil		300.0	-0.7224772472681619	--
Prunus cerasus	Fruit		3.0	-0.7922320209317137	--
Ficus carica	Fruit		1.0	-0.7971374823616315	--
Hyacinthus orientalis	Flower	0.16	2.3	-1.0000000000000002	--
Leonurus cardiaca	Plant		1.0	-1.2925553226400937	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Cinnamomum verum</i>	Leaf Essent. Oil		7000.0	-1.4141473605881718	--
<i>Zea mays</i>	Husk Essent. Oil				--
<i>Triticum aestivum</i>	Shoot				--
<i>Cinnamomum verum</i>	Bark Essent. Oil				--
<i>Cinnamomum verum</i>	Stem Bark				--
<i>Cinnamomum verum</i>	Essential Oil				--
<i>Rheum palmatum</i>	Rhizome		1.5		--
<i>Ligustrum japonicum</i>	Flower				--
<i>Hyssopus officinalis</i>	Shoot				Indian Perfumer, 35: 51.
<i>Cymbopogon winterianus</i>	Plant				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
<i>Glycyrrhiza glabra</i>	Root Essent. Oil				--
<i>Hibiscus sabdariffa</i>	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Chrysanthemum parthenium</i>	Shoot				Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. Flavor and Fragrance Journal 11(6): 367-71.
<i>Cinnamomum verum</i>	Bark	26.0	104.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Vaccinium myrtillus</i>	Fruit Juice				--
<i>Robinia pseudoacacia</i>	Flower				--
<i>Prunus dulcis</i>	Seed		8200.0		--
<i>Myroxylon balsamum</i>	Plant				--
<i>Citrullus lanatus</i>	Fruit Juice				--
<i>Syzygium aromaticum</i>	Flower				--
<i>Cnicus benedictus</i>	Shoot				Jim Duke's personal files.
<i>Zingiber officinale</i>	Rhizome				--
<i>Syzygium aromaticum</i>	Fruit				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Acacia farnesiana</i>	Flower				Pakistan Encyclopedia Planta Medica. 1986.
<i>Acacia farnesiana</i>	Plant				Pakistan Encyclopedia Planta Medica. 1986.
<i>Capsicum annum</i>	Fruit				--
<i>Jasminum officinale</i>	Flower				--
<i>Lycopersicon esculentum</i>	Fruit				--
<i>Vaccinium macrocarpon</i>	Fruit				--
<i>Melaleuca viridiflora</i>	Leaf				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
<i>Cananga odorata</i>	Flower				--
<i>Arctium lappa</i>	Root				--
<i>Salvia sclarea</i>	Plant				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<i>Mentha spicata</i>	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Ribes nigrum</i>	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Brassica oleracea</i>	Stem	0.02			--
<i>Zea mays</i>	Shoot				--
<i>Perilla frutescens</i>	Shoot Essent. Oil				Nguyen, X. D., La, D. M., Lu'u, D. C., Leclercq, P. A. 1995. Essential Oil Constituents from the Aerial Parts of <i>Perilla frutescens</i> (L.) Britton. <i>J. Essent. Oil Res.</i> , 7(4): 429-432.
<i>Tanacetum parthenium</i>	Shoot				Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. <i>Flavor and Fragrance Journal</i> 11(6): 367-71.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Prunus serotina</i>	Bark				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
<i>Styrax benzoin</i>	Plant				--
<i>Mentha spicata</i>	Essential Oil				--
<i>Chrysanthemum x morifolium</i>	Flower				Wealth of India.
<i>Cinnamomum verum</i>	Leaf				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Carthamus tinctorius</i>	Bud		0.1		--
<i>Camellia sinensis</i>	Leaf				--
<i>Phaseolus vulgaris</i>	Stem Essent. Oil				--
<i>Melissa officinalis</i>	Tissue Culture				Gbolade, A.A. and Lockwood, G.B. 1991. The Constituents of <i>Melissa officinalis</i> L. Cultures. <i>J. Ess. Oil Res.</i> , 3: 111-114.
<i>Avena sativa</i>	Seed				--
<i>Melaleuca leucadendra</i>	Essential Oil				--
<i>Morus alba</i>	Plant				--
<i>Aesculus hippocastanum</i>	Flower Essent. Oil		11000.0		Jim Duke's personal files.
<i>Petiveria alliacea</i>	Root				Tramil
<i>Glycyrrhiza glabra</i>	Rhizome Essent. Oil				--
<i>Glycyrrhiza glabra</i>	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
<i>Laurus nobilis</i>	Leaf				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Rubus idaeus</i>	Plant				--
<i>Zea mays</i>	Silk Essent. Oil		1000.0		--
<i>Narcissus tazetta</i>	Flower				--
<i>Panax ginseng</i>	Shoot				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Sambucus nigra</i>	Plant				--
<i>Sambucus nigra</i>	Flower Essent. Oil				--
<i>Eruca sativa</i>	Hs				--
<i>Sambucus nigra</i>	Leaf Essent. Oil				--
<i>Eriobotrya japonica</i>	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Prunus persica</i>	Fruit				--
<i>Vaccinium corymbosum</i>	Fruit Juice				--
<i>Prunus persica</i>	Seed				--
<i>Petroselinum crispum</i>	Leaf				--
<i>Cucumis melo</i>	Petiole				--
<i>Cinnamomum aromaticum</i>	Bark				--
<i>Iris x germanica</i>	Rhizome				--
<i>Rosa damascena</i>	Essential Oil				--
<i>Anacardium occidentale</i>	Fruit				--
<i>Juglans nigra</i>	Fruit				--
<i>Pogostemon cablin</i>	Plant				--
<i>Syringa vulgaris</i>	Flower				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Capsicum frutescens</i>	Fruit				--
<i>Vanilla planifolia</i>	Fruit				--